

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R036XB112NM

**Site Name:** Loamy

**Precipitation or Climate Zone:** 10 to 16 inches

**Phase:**

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site occurs on level to sometimes strongly sloping piedmont slopes or plains. Average slopes are 5 percent or less, although slopes may range as high as 15 percent. Elevations vary from about 6,000 to 7,300 feet above sea level.

### **Land Form:**

1. Fan piedmont
2. Plain
- 3.

### **Aspect:**

1. N/A
- 2.
- 3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	6,000	7,300
<b>Slope (percent)</b>	<5	15
<b>Water Table Depth (inches)</b>	N/A	N/A
<b>Flooding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Frequency</b>	None	Occasional
<b>Duration</b>	None	Very brief
<b>Ponding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Depth (inches)</b>	N/A	N/A
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A

### **Runoff Class:**

Negligible to high.

## **CLIMATIC FEATURES**

### **Narrative:**

Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from about 5 inches to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than are those of spring.

The average frost-free season is about 120 days and extends from approximately mid May too early or mid September. Average annual air temperatures are 50 degrees F or lower and summer maximums rarely exceed 100 degrees F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70 degrees F for the period of July and August.

Rainfall patterns generally favor warm-season perennial vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on any given ecological site, which is quite susceptible to disturbance and is at or near its productive potential only when both the natural warm/cool-season dominants are present.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	102	148
<b>Freeze-free period (days):</b>	119	174
<b>Mean annual precipitation (inches):</b>	10	16

### **Monthly moisture (inches) and temperature (°F) distribution:**

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

**Climate Stations:**

			Period	
Station ID	<u>290640</u>	Location	<u>Augustine 2E, NM</u>	From: <u>05/01/26</u> To: <u>07/31/00</u>
Station ID	<u>296812</u>	Location	<u>Pietown 19NE, NM</u>	From: <u>09/01/88</u> To: <u>07/31/00</u>
Station ID	<u>297180</u>	Location	<u>Quemado, NM</u>	From: <u>08/01/15</u> To: <u>07/31/00</u>

**INFLUENCING WATER FEATURES****Narrative:**

This site is not influenced by water from a wetland or stream.

**Wetland description:**

System	Subsystem	Class
N/A		

**If Riverine Wetland System enter Rosgen Stream Type:**

N/A

**REPRESENTATIVE SOIL FEATURES****Narrative:**

Typical soils are moderately deep to deep and well drained. The surface layer is medium textured loams, fine sandy loams, and very fine sandy loams. Surface and underlying textures may contain gravels but generally contains less than 35 percent. Underlying layers vary from moderately coarse to fine textured. The water-holding capacity is moderately high to high, and permeability is moderately slow to moderate. As vegetation cover deteriorates, however, intake rates may be reduced to slow.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

**Surface Texture:**

1. Loam
2. Fine sandy loam
3. Sandy loam
4. Silty
5. Very fine sandy loam
6. Sandy clay loam
7. Gravelly fine sandy loam
8. Gravelly loam
9. Gravelly sandy loam
10. Loamy fine sand
11. Loamy sand
12. Clay loam
13. Very gravelly loam

**Surface Texture Modifier:**

1. Gravel
2.
3.

**Subsurface Texture Group:** Clayey

**Surface Fragments <=3" (% Cover):** 15 to 35

**Surface Fragments >3" (% Cover):** N/A

**Subsurface Fragments <=3" (%Volume):** 15 to 35

**Subsurface Fragments >=3" (%Volume):** 15 to 35

	<b>Minimum</b>	<b>Maximum</b>
<b>Drainage Class:</b>	<u>Well</u>	<u>Well</u>
<b>Permeability Class:</b>	<u>Very slow</u>	<u>Moderately rapid</u>
<b>Depth (inches):</b>	<u>20</u>	<u>&gt;72</u>
<b>Electrical Conductivity (mmhos/cm):</b>	<u>0.00</u>	<u>8.00</u>
<b>Sodium Absorption Ratio:</b>	<u>0.00</u>	<u>8.00</u>
<b>Soil Reaction (1:1 Water):</b>	<u>6.6</u>	<u>9.0</u>
<b>Soil Reaction (0.1M CaCl2):</b>	<u>N/A</u>	<u>N/A</u>
<b>Available Water Capacity (inches):</b>	<u>6</u>	<u>12</u>
<b>Calcium Carbonate Equivalent (percent):</b>	<u>N/A</u>	<u>N/A</u>

## **PLANT COMMUNITIES**

### **Ecological Dynamics of the Site:**

### **Plant Communities and Transitional Pathways (diagram)**

**Plant Community Name:** Historic Climax Plant Community

**Plant Community Sequence Number:** 1 **Narrative Label:** HCPC

**Plant Community Narrative:** Historic Climax Plant Community

This is a grassland site characterized by a mixture of warm/cool-season grasses. Dominants are blue grama and western wheatgrass. Also characteristic are such species as bottlebrush squirreltail, spike muhly, sand dropseed, needleandthread, and New Mexico feathergrass. Shrubs and half-shrubs include fourwing saltbush and winterfat. Typical forbs are Wright buckwheat, Rocky Mountain beeplant, and species of astragalus.

Canopy Cover:

Shrubs and half shrubs 6 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 25

Bare ground 53

Surface gravel 5

Surface cobble and stone 1

Litter (percent) 16

Litter (average depth in cm.) 2

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	300	530	760
Forb	30	53	76
Tree/Shrub/Vine	45	80	114
Lichen			
Moss			
Microbiotic Crusts			
Total	375	663	950

## **Plant Community Composition and Group Annual Production:**

### **Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	133 – 166	133 – 166
2	PASM	Western Wheatgrass	66 – 133	66 – 133
3	MUWR	Spike Muhly	53 – 80	53 – 80
4	ELEL5	Bottlebrush Squirreltail	33 – 66	33 – 66
5	HENE2 HECO26	New Mexico Feathergrass Needleandthread	33 – 66	33 – 66
6	PLJA	Galleta	7 – 33	7 – 33
7	BOCU	Sideoats Grama	7 – 33	7 – 33
8	LYPH SPCR	Wolftail Sand Dropseed	7 – 33	7 – 33
9	MUTO2 MOSQ ARIST	Ring Muhly False Buffalograss Threeawn spp.	7 – 33	7 – 33
10	BOER4	Black Grama	7 – 20	7 – 20
11	SPAI	Alkali Sacaton	7 – 33	7 - 33

### **Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	2FP	Other Perennial Forbs	7 – 53	7 – 53
13	2FA	Other Annual Forbs	7 – 33	7 - 33

### **Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	ATCA2	Fourwing Saltbush	7 – 33	7 – 33
15	KRLA2	Winterfat	7 – 33	7 – 33
16	ARBI3 ARFR4	Bigelow Sagebrush Fringed Sagewort	7 – 33	7 – 33
17	GUSA2 TECA2 ERNAN5	Broom Snakeweed Spineless Horsebrush Rubber Rabbitbrush	7 – 20	7 – 20
18	LYPA FAPA	Pale Wolfberry Apacheplume	7 – 20	7 - 20

### **Plant Type - Lichen**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

### **Plant Type - Moss**

Group	Scientific		Species Annual	Group Annual
-------	------------	--	----------------	--------------



Number	Plant Symbol	Common Name	Production	Production

### **Plant Type - Microbiotic Crusts**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

### **Plant Growth Curves**

**Growth Curve ID** 0303NM

**Growth Curve Name:** HCPC

**Growth Curve Description:** Mixed warm/cool-season grassland w/shrub and half-shrub and forb component.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

Habitat for Wildlife:

This site provides habitat which support a resident animal community that is characterized by pronghorn antelope, black-tailed jackrabbit, badger, Gunnison's prairie dog, banner-tailed kangaroo rat, Botta's pocket gopher, silky pocket mouse, burrowing owl, mourning dove, chipping sparrow, western spadefoot toad, leopard lizard, short-horned lizard, and prairie rattlesnake.

The chestnut-collared longspur winters on this site, and the common raven and prairie falcon hunt over it.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

<b>Hydrologic Interpretations</b>	
<b>Soil Series</b>	<b>Hydrologic Group</b>
Aquima	B
Augustine	B
Bond	B
Celacy	C
Celsosprings	C
Clovis	B
Datil	B
Dioxice	B
Doakum	B
El Rancho	B
Flaco	C
Flugle	B
Galestina	C
Gilco	B
Goesling	B
Grieta	B
Guy	B
Hagerman	C & B
Jacee	C
Jocity	B
Kim	B

La Fonda	B
Landavaso	B
Las Lucas	B
Loarc	B
Maia	B
Manzano	B
Marianolake	B
Mikim	B
Millpaw	C & D
Oelop	B
Paguate	C
Penistaja	B
Querencia	B
Redpen	B
Scholle	B
Shavano	B
Silver	C
Tapia	B
Teczuni	C
Tejana	B
Veteado	C
Witt	B
Zia	B

#### **Recreational Uses:**

This site offers fair to good potential for hiking, horseback riding, nature observation, photography, and hunting for pronghorn antelope. Very limited hunting opportunities for quail and dove usually exist.

During seasons when soil moisture is favorable, the site may display a colorful array of wildflowers.

#### **Wood Products:**

This site has no significant value for wood products.

**Other Products:****Grazing:**

This site is suitable for grazing by cattle, sheep, and horses in all seasons of the year, but is poorly suited to continuous yearlong use if potential natural vegetation is to be maintained. Under such use, cool-season grasses such as western wheatgrass may decline rapidly. If use is heavy and prolonged, such species as sideoats grama and spike muhly will also decline.

Typical site deterioration is characterized by low-vigor, sod-like blue grama, which may eventually come to make up 80 to 95 percent of the composition. Further deterioration is characterized by increasing amounts of bare ground, possible invasion by woody plants, such as pinyon and juniper, and increases in ring muhly, threeawn spp., and sand dropseed. The site is also susceptible to takeover by rabbitbrush. Production in these instances may be cut to one-third or even one-fourth of the potential.

**Other Information:****Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	3.3 – 4.6
75 – 51	4.4 – 6.8
50 – 26	6.5 – 11.0
25 – 0	11.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

**Plant Preference by Animal Kind:**

**Animal Kind:** Livestock

**Animal Type:** Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	P	P	P	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P

**Animal Kind:** Livestock

**Animal Type:** Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Winterfat	Krascheninnikovia lanata	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Bigelow Sagebrush	Artemisia bigelovii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D

**Animal Kind:** Wildlife

**Animal Type:** Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Winterfat	Krascheninnikovia lanata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Bigelow Sagebrush	Artemisia bigelovii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Fourwing Saltbush	Atriplex canescens	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U

## **SUPPORTING INFORMATION**

### **Associated sites:**

Site Name	Site ID	Site Narrative

### **Similar sites:**

Site Name	Site ID	Site Narrative

### **State Correlation:**

This site has been correlated with the following sites: \_\_\_\_\_

### **Inventory Data References:**

Data Source	# of Records	Sample Period	State	County

### **Type Locality:**

State: New Mexico

County: Catron, Socorro

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Section: \_\_\_\_\_

Is the type locality sensitive?    Yes ☐        No ☐

### **General Legal Description:**

### **Relationship to Other Established Classifications:**

--

### **Other References:**

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley, Cibola, Sandoval, Catron, Socorro.

### **Characteristic Soils Are:**

Datil	Dioxice
-------	---------

### **Other Soils included are:**

Aquima, Augustine, Bond, Celacy	Celsosprings, Clovis, Doakum, El Rancho, Flaco
Flugle, Galestina, Gilco, Goesling, Grieta, Guy	Hagerman, Jacee, Jocity, Kim, La Fonda
Landavaso, Las Lucas, Loarc, Maia, Manzano	Marianolake, Mikim, Millpaw, Oelop, Paguete
Penistaja, Querencia, Redpen, Scholle, Shavano	Silver, Tapia, Teczuni, Tejana, Veteado, Witt, Zia

### **Site Description Approval:**

#### **Author**

Don Sylvester

#### **Date**

02/15/80

#### **Approval**

Durwood E. Ball

#### **Date**

03/27/80

### **Site Description Revision:**

#### **Author**

Elizabeth Wright

#### **Date**

07/08/02

#### **Approval**

George Chavez

#### **Date**

12/16/02